We claim:

1. A process for separating a mixture of two enantiomers; said process comprising transporting the enantiomers through a medium comprising polymerized dipeptide chiral micelles, or transporting the enantiomers and a medium comprising polymerized dipeptide chiral micelles over a substrate; wherein said micelles have differing affinities for the two enantiomers, and wherein the differing affinities cause the two enantiomers to move through the medium or over the substrate at different velocities, whereby the enantiomers become separated from one another.

2. A process as recited in Claim 1, wherein said transporting step comprises performing liquid chromatography.

3. A process as recited in Claim 1, wherein said transporting step comprises performing capillary electrophoresis.

4. A process as recited in Claim 1, wherein said transporting step comprises performing a liquid-liquid extraction between two immiscible liquid phases, wherein said micelles are substantially soluble in only one of the two liquid phases.

5. A process as recited in Claim 1, wherein said transporting step comprises performing gas chromatography.

6. A process as recited in Claim 1, wherein said transporting step comprises transporting the enantiomers and said micelles across a membrane.

7. A process as recited in Claim 1, wherein the medium additionally comprises a chiral selector other than said micelles, wherein said chiral selector has differing affinities for the two enantiomers.

8. A process as recited in Claim 7, wherein said chiral selector comprises a chiral cyclodextrin.

9. A process as recited in Claim 7, wherein said chiral selector comprises a crown ether.

10. A process as recited in Claim 7, wherein said chiral selector comprises a bile salt.

11. A process as recited in Claim 1, wherein said micelles comprise a polymer of monomers, wherein each of said monomers comprises an unsaturated hydrocarbon chain linked to a chiral dipeptide.

12. A process as recited in Claim 1, wherein said micelles comprise a mixture of different polymerized dipeptide chiral micelles.

13. A process as recited in Claim 1, wherein said micelles comprise a co-polymer of different dipeptide chiral surfactant monomers.

14. A process as recited in Claim 1, wherein said micelles comprise reversed polymerized dipeptide chiral micelles.

15. A process as recited in Claim 1, wherein said micelles comprise poly (sodium N-undecylenyl-L-valine-L-valine), or poly (sodium N-undecylenyl-D-valine-D-valine), or poly (sodium N-undecylenyl-L-leucine-L-leucine), or poly (sodium N-undecylenyl-D-leucine-D-leucine), or poly (sodium N-undecylenyl-L-leucine-L-valine), or poly (sodium N-undecylenyl-D-leucine-D-valine), or poly (sodium N-undecylenyl-L-valine-L-leucine), or poly (sodium N-undecylenyl-D-valine-D-leucine).

16. A process as recited in Claim 1, wherein the enantiomers are hydrophilic; wherein the medium is an aqueous or nonaqueous polar medium; and wherein the amino acid of the dipeptide closer to the polar medium is chiral.

17. A process as recited in Claim 1, wherein the enantiomers are hydrophobic; wherein the medium is an aqueous or nonaqueous polar medium; and wherein the amino acid of the dipeptide farther from the polar medium is chiral.

18. A polymerized dipeptide chiral micelle; wherein said polymerized dipeptide chiral micelle is not a polymer of a compound selected from the group consisting of *N*-undec-10'-enoyl-L-prolyl-L-glutamic acid, *N*-undec-10'-enoyl-L-methionyl-L-glutamic acid, and *N*-undec-10'-enoyl-L-phenylalanyl-β-alanine.

19. A micelle as recited in Claim 18, wherein said micelle comprises a polymer of monomers, wherein each of said monomers comprises an unsaturated hydrocarbon chain linked to a chiral dipeptide.

20. A composition of matter comprising a mixture of a plurality of different polymerized chiral micelles, wherein each of said polymerized chiral micelles is a micelle as recited in Claim 18.

21. A micelle as recited in Claim 18, wherein said micelle comprises a co-polymer of a plurality of different dipeptide chiral surfactant monomers.

22. A micelle as recited in Claim 18, wherein said micelle comprises a reversed polymerized chiral micelle.

23. A micelle as recited in Claim 18, wherein said micelle comprises poly (sodium N-undecylenyl-L-valine-L-valine), or poly (sodium N-undecylenyl-D-valine-D-valine), or poly (sodium N-undecylenyl-L-leucine-L-leucine), or poly (sodium N-undecylenyl-D-leucine-D-leucine), or poly (sodium N-undecylenyl-L-leucine-L-valine), or poly (sodium N-undecylenyl-D-leucine-D-valine), or poly (sodium N-undecylenyl-L-valine-L-leucine), or poly (sodium N-undecylenyl-D-valine-D-leucine).

24. A process for separating a mixture of two enantiomers; said process comprising transporting the enantiomers through a medium comprising polymerized oligopeptide chiral micelles, or transporting the enantiomers and a medium comprising polymerized oligopeptide chiral micelles over a substrate; wherein said micelles have differing affinities for the two enantiomers, and wherein the differing affinities cause the two enantiomers to move through the medium or over the substrate at different velocities, whereby the enantiomers become separated from one another.

25. A process as recited in Claim 24, wherein said transporting step comprises performing liquid chromatography.

26. A process as recited in Claim 24, wherein said transporting step comprises performing capillary electrophoresis.

27. A process as recited in Claim 24, wherein said transporting step comprises performing a liquid-liquid extraction between two immiscible liquid phases, wherein said micelles are substantially soluble in only one of the two liquid phases.

28. A process as recited in Claim 24, wherein said transporting step comprises performing gas chromatography.

29. A process as recited in Claim 24, wherein said transporting step comprises transporting the enantiomers and said micelles across a membrane.

30. A process as recited in Claim 24, wherein the medium additionally comprises a chiral selector other than said micelles, wherein said chiral selector has differing affinities for the two enantiomers.

31. A process as recited in Claim 28, wherein said chiral selector comprises a chiral cyclodextrin.

32. A process as recited in Claim 28, wherein said chiral selector comprises a crown ether.

33. A process as recited in Claim 28, wherein said chiral selector comprises a bile salt.

34. A process as recited in Claim 24, wherein said micelles comprise a polymer of monomers, wherein each of said monomers comprises an unsaturated hydrocarbon chain linked to a chiral oligopeptide.

35. A process as recited in Claim 24, wherein said micelles comprise a mixture of different polymerized oligopeptide chiral micelles.

36. A process as recited in Claim 24, wherein said micelles comprise a co-polymer of different oligopeptide chiral surfactant monomers.

37. A process as recited in Claim 24, wherein said micelles comprise reversed polymerized oligopeptide chiral micelles.

38. A process as recited in Claim 24, wherein the enantiomers are hydrophilic; wherein the medium is an aqueous or nonaqueous polar medium; and wherein the amino acid of the oligopeptide closest to the polar medium is chiral.

39. A process as recited in Claim 24, wherein the enantiomers are hydrophobic; wherein the medium is an aqueous or nonaqueous polar medium; and wherein at least one of the amino acids of the oligopeptide that is not closest to the polar medium is chiral.

40. A polymerized oligopeptide chiral micelle; wherein each monomer unit of said polymerized oligopeptide chiral micelle contains a plurality of at least three amino acid residues.

41. A micelle as recited in Claim 40, wherein said micelle comprises a polymer of monomers, wherein each of said monomers comprises an unsaturated hydrocarbon chain linked to a chiral oligopeptide.

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42. A composition of matter comprising a mixture of a plurality of different polymerized chiral micelles, wherein each of said polymerized chiral micelles is a micelle as recited in Claim 40.

43. A micelle as recited in Claim 40, wherein said micelle comprises a co-polymer of a plurality of different oligopeptide chiral surfactant monomers.

44. A micelle as recited in Claim 40, wherein said micelle comprises a reversed polymerized chiral micelle.

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